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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,008	05/06/2002	Lieven De Veylder	2364/400	2821

7590 12/30/2003

Ann R Pokalsky
Nixon Peabody
990 Stewart Avenue
Garden City, NY 11530

EXAMINER	
COLLINS, CYNTHIA E	

ART UNIT	PAPER NUMBER
1638	11

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/937,008	DE VEYLDER ET AL.	
	Examiner	Art Unit	
	Cynthia Collins	1638	

-- The MAILING DATE of this communication appears n the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-41 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-41 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152) .
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-7 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is an A-type cyclin-dependent protein kinase, and to a composition.

Group II, 1-7 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a B-type cyclin-dependent protein kinase, and to a composition.

Group III, claim(s) 1-2, 8-11 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is an A-type cyclin, and to a composition.

Group IV, claim(s) 1-2, 8-11 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a B-type cyclin, and to a composition.

Group V, claim(s) 1-2, 8-10 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a C-type cyclin, and to a composition.

Group VI, claim(s) 1-2, 8-12 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a D-type cyclin, and to a composition.

Group VII, claim(s) 1-2, 8-10 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is an E-type cyclin, and to a composition.

Group VIII, claim(s) 1-2, 13-14 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory

sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is an ORC1 protein, and to a composition.

Group IX, claim(s) 1-2, 13-14 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a CDC6 protein, and to a composition.

Group X, claim(s) 1-2, 13-14 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a CDC7 protein, and to a composition.

Group XI, claim(s) 1-2, 13-14 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a DBF4 protein, and to a composition.

Group XII, claim(s) 1-2, 13-14 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle

interacting proteins, wherein one of said cell cycle interacting proteins is an E2F protein, and to a composition.

Group XIII, claim(s) 1-2, 13-14 and 31, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a DP protein, and to a composition.

Group XIV, claim(s) 1-2, 15-34 and 37-41, drawn to a method for modifying plant growth and/or yield or modifying architecture using (a) nucleic acid molecule(s) or regulatory sequence(s) that result in increased de novo expression of at least two cell cycle interacting proteins, wherein one of said cell cycle interacting proteins is a CDK and one of said cell cycle interacting proteins is a cyclin, and to a nucleic acid molecule, a vector, a composition, a host cell, and a transgenic plant cell and plant.

Group XV, claim(s) 35-36, drawn to a method for the preparation of a cell cycle protein complex, and to a cell cycle protein complex.

For **Group III** above, restriction to one of Groups (A)-(E) is also required under 35 U.S.C. 121 and 372. Therefore, if **Group III** is elected, one of Groups (A)-(E) must also be elected.

(A) CycA1;1
(B) CycA2;1
(C) CycA2;2
(D) CycA2;3
(E) CycA3;1

For **Group IV** above, restriction to one of Groups (F)-(I) is also required under 35 U.S.C. 121 and 372. Therefore, if Group IV is elected, one of Groups (F)-(I) must also be elected.

(F)	CycB1;1	(H)	CycB2;1
(G)	CycB1;2	(I)	CycB2;2

For **Group VI** above, restriction to one of Groups (J)-(M) is also required under 35 U.S.C. 121 and 372. Therefore, if **Group VI** is elected, one of Groups (J)-(M) must also be elected.

(J)	CycD1;1	(L)	CycD3;1
(K)	CycD2;1	(M)	CycD4;1

For **Groups XIV and XV** above, restriction to one of Groups (M)-(X) and one of Groups (Y)-(EE) is also required under 35 U.S.C. 121 and 372. Therefore, if **Group XIV** or **Group XV** is elected, one of Groups (M)-(X) and one of Groups (Y)-(EE) must also be elected.

(N)	CycA2;1	(R)	CycB1;2	(V)	CycD2;1
(O)	CycA2;2	(S)	CycB2;1	(W)	CycD3;1
(P)	CycA2 ;3	(T)	CycB2;2	(X)	CycD4;1
(Q)	CycB1;1	(U)	CycD1;1		

(Y)	Cdc2a	(BB)	Cdc2bN161	(EE)	Cdc2fN164
(Z)	Cdc2b	(CC)	Cdc2aN146		
(AA)	Cdc2f	(DD)	G1-CDK		

The inventions listed as Groups I-XV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking the inventions of Groups I-XV appears to be the use of (a) nucleic acid molecule(s) or regulatory sequence(s) to modify plant growth and/or yield or modify architecture, wherein the introduction into a plant cell of said molecule(s) or regulatory sequence(s) results in increased or de novo expression of at least two cell cycle interacting proteins capable of forming a heteromeric complex. However, the use of (a) nucleic acid molecule(s) or regulatory sequence(s) to modify plant growth and/or yield or modify architecture, wherein the introduction into a plant cell of said molecule(s) or regulatory sequence(s) results in increased or de novo expression of at least two cell cycle interacting proteins capable of forming a heteromeric complex is obvious or anticipated over RIABOWOL (US Patent No. 5,514,571, issued May 7, 1996, column 10 lines 17-34) in view of HEMERLY et al. (The EMBO Journal, 1995, Vol. 14, No. 16, pages 3925-3936) and RIOU-KHAMLICHI et al. (Science, 5 March 1999, Vol. 283, pages 1541-1544, Applicant's IDS), and therefore does not constitute a special technical feature as defined by PCT Rule 13.2, because it does not define a contribution over the prior art. Furthermore, the special technical feature of Group I is the increased de novo expression of an A-type cyclin-dependent protein kinase, the special technical feature of Group II is the increased de novo expression of a B-type cyclin-dependent protein kinase, the special technical feature of Group III is the increased de novo expression of an A-type cyclin, the special technical feature of Group IV is the increased de novo expression of a B-type cyclin, the special technical feature of Group V is the increased de novo expression of a C-

type cyclin, the special technical feature of Group VI is the increased de novo expression of a D-type cyclin, the special technical feature of Group VII is the increased de novo expression of an E-type cyclin, the special technical feature of Group VIII is the increased de novo expression of an ORC1 protein, the special technical feature of Group IX is the increased de novo expression of a CDC6 protein, the special technical feature of Group X is the increased de novo expression of a CDC7 protein, the special technical feature of Group XI is the increased de novo expression of a DBF4 protein, the special technical feature of Group XII is the increased de novo expression of an E2F protein, the special technical feature of Group XIII is the increased de novo expression of a DP protein, the special technical feature of Group XIV is the increased de novo expression of a CDK and a cyclin, and the special technical feature of Group XV is the preparation of a cell cycle protein complex.

The inventions listed as Groups (A)-(EE) do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking the inventions of Groups (A)-(EE) appears to be nucleic acid molecules encoding cell cycle interacting proteins. However, nucleic acid molecules encoding cell cycle interacting proteins are obvious or anticipated over any of RIABOWOL (US Patent No. 5,514,571, issued May 7, 1996), HEMERLY et al. (The EMBO Journal, 1995, Vol. 14, No. 16, pages 3925-3936), or RIOU-KHAMLICHI et al. (Science, 5 March 1999, Vol. 283, pages 1541-1544, Applicant's IDS), and therefore do not constitute a special technical feature as defined by PCT Rule 13.2, because they do not define a contribution over the prior art.

Furthermore, the special technical feature of each of Groups (A)-(EE) is each distinct cell cycle interacting protein.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Remarks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC 8/20/03

ASHWIN D. MEHTA, PH.D
PATENT EXAMINER